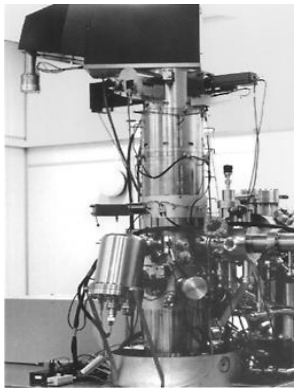
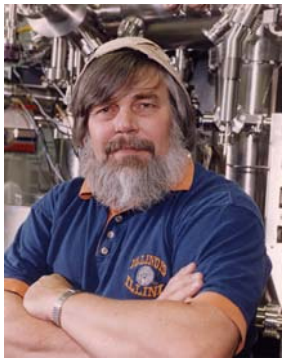
Scanning Confocal Electron Microscope (SCEM)

Argonne National Laboratory

The Scanning Confocal Electron Microscope (SCEM) is an electron optical instrument that merges the principles of confocal imaging by combining the ease of a Scanning Electron Microscope and the penetration ability of both the Scanning Transmission X-ray Microscope and the Transmission/Scanning Transmission Electron Microscope.



The SCEM enables imaging of sub-surface structures of thick, optically opaque materials, that previously required an X-ray microscope. It also enables imaging at large fields of view and at small, billionths-of-a-meter or nanometer-level resolution. The SCEM's main application is in studies of nanomaterials, particularly the next generation of electronic, magnetic and photonic devices. An example of these devices is anything from high tech consumer electronics to the latest in multi-layered high density R&D integrated circuits.



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